Organizing Data with Matrices

Objectives:

1. Organize systems of equations using matrices.
2. Apply matrices to simple operations.
3. Use matrices to solve equations.

Matrix-

Ex: 

Write the dimensions of each matrix.

a.  b.  c. 

Matrix Element-

 Ex: Identify 

Matrix Addition-

Ex: Mean SAT Scores

**Verbal** **Math**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Male | Female | Male | Female |
| 1995 | **505** | **502** | **525** | **510** |
| 1996 | **507** | **503** | **503** | **502** |
| 1997 | **509** | **503** | **530** | **494** |
| 1998 | **509** | **502** | **531** | **496** |

Write two by two Matrices representing mean verbal and mean math scores.

Find the mean SAT scores for each year.

Matrix Addition:  

Additive Identity Property:

Additive Inverse Property:

Matrix Subtraction-

Ex:  

Method 1: A-B= A+ (-B)

Method 2: A-B

Scalar Multiplication:

Ex: Ex:

Solving Matrix Equations- An equation in which the variable is a matrix

Ex: 

Ex: 

Equal Matrices:

Ex:  

Ex:

Using Matrices to Solve for Unknowns…

Ex: 

Ex: